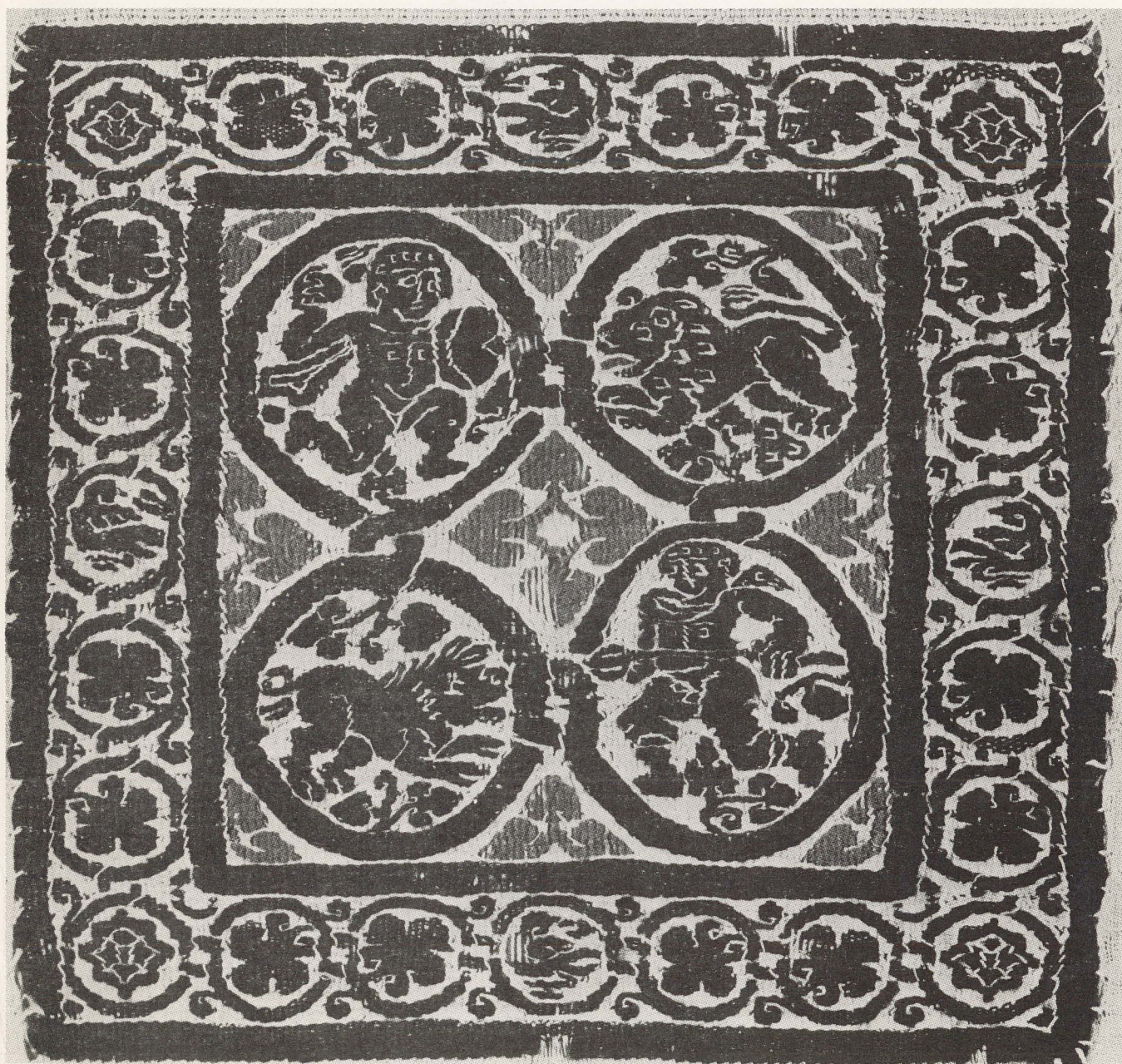


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Cover: HUNTERS AND WILD ANIMALS. (Fig. 5 of Bennett article, p.4). Wool
tapestry on linen. Fourth-fifth century A.D. Wadsworth Atheneum.
Acc. No. 1971.52.114.

EGYPTIAN ART IN THE WADSWORTH ATHENEUM HARTFORD, CONNECTICUT

An ancient presence was first felt in the oldest public museum in the United States in the mid-19th century, primarily in the form of copies of classical Greek statues and paintings of classical subjects. The finest of the early Egyptian entrants, and still visitors' favorite ancient object in the Atheneum collection, is the splendid bronze cat which was part of a gift of antiquities J. P. Morgan bestowed on Hartford in 1917. This and other gifts, including construction of a handsome building which was the core of the institution for many years, were in honor of John Pierpont's father, Junius Spencer Morgan, a long-time resident of the city, and in memory of the son's birth and boyhood in Hartford. Still today the majority of Egyptian and western antiquities is housed in recently re-installed galleries on the ground floor of that building.

By gift and bequest, Samuel P. Avery in 1916 and Henry A. Schnakenberg in the forties and 1971 added to the small Egyptian collection. Over eighty pieces of Coptic weaving and tapestry entered the Atheneum through the auspices of Kirkor Minassian and the Schnakenberg bequest during the years 1922, 1925, 1949 and 1971. Over the years, however, there has been no special mentor or fund which has been directed toward the development or the publication of the antiquities. While the collection is hardly representative and small in quantity, there are several Egyptian pieces of special interest.

A small group of predynastic objects, still requiring research, include a variety of stone vessels, mace heads and schist animal-shaped palettes, as well as some black-topped jars. A very worn fragment of Dynasty IV or V limestone relief with male figures was previously in the Metropolitan Museum of Art, having been recovered from the region of the pyramid of Amenemhet I at Lisht; the relief and a few stone jars are modest remains of Old Kingdom art in the collection. A small wood statuette of unknown provenance represents a young man in valenced wig and short kilt and has been ascribed to the Middle Kingdom (Fig. 1). Other small stone vessels of later periods include two anhydrite jars with lids which are probably Middle Kingdom in date. The uninscribed upper part of a granite statuette of a sturdy Middle Kingdom woman with an interesting hairstyle was excavated at Lisht and was formerly in the Metropolitan Museum of Art. The Morgan cat has some feline companions in some lifesize bronze heads of the Late Period and smaller cat amulets and statuettes of faience and bronze. Additional faience objects include some of the common amulet

and ushabti types (Fig. 2), as well as a fine figure of nursing Isis which is part of the original Morgan gift (Fig. 3); also included are the broken but datable head of one New Kingdom Hathor sistrum and the Ptolemaic handle of another. Originally acquired by missionaries in 1862, a head and bust of Sekhmet probably from the New Kingdom Mut sanctuary of Thebes was given to the Atheneum in 1955.

Two good panel paintings are the highlights of the objects from the Ptolemaic and Roman periods of Egypt. One is unique, a divinized imperial rider of the early second century A.D. on a rather small and overburdened horse. The other painting, later in date, was once part of the Theodore Graf collection of mummy panels and represents a young boy (Fig. 4). The Metropolitan Museum has loaned to the collection the only intact mummy in Hartford, an unnamed lady of the Roman period who came again to light during the Museum's excavations at Deir el-Bahri. Among the Coptic textiles is part of a medium-sized tunic which has a horizontal panel across the chest with three dancers in an arcade and two vertical clavi with individual figures under arches alternating with traditional birds and animals in roundels. Some of the other tapestry medallions can be identified as parts of series found in other collections and as characteristic of the weavings made in Egypt in the early centuries of the Common Era (Fig. 5, see Cover). Coptic architectural stone carving is represented by two limestone reliefs: a boy Isis devotee seated in a niche with a bunch of grapes and a bird, and a frontal bust of an angel in a spiky wreath (Fig. 6). Among the Coptic and Roman bronzes are two handsome bird-form lamps (Fig. 7), and a bust-shaped vessel of a beautiful youth who may be Antinoos. There is a quantity of ancient glass from Morgan, Avery and other donors in the collection of antiquities, but few pieces if any can be identified as Egyptian.

Unfortunately, not all of the ancient objects in the Atheneum are on display, in spite of recent restoration and re-installation efforts. A catalogue raisonne of the under two hundred objects from Egypt is well advanced, but there are no immediate plans for its publication. Presently available through the Wadsworth Atheneum bookshop is a brief introduction to the entire small ancient Western collection compiled by this author at the time of the re-installation of the objects which are now on exhibit. Since several of the better known objects of the Atheneum Egyptian collection are illustrated there and elsewhere the objects selected for illustration of this article are some which have not been previously published.*

J. L. Keith-Bennett
University of Connecticut

* Photographs courtesy of Wadsworth Atheneum, Hartford.
Objects: 1971 acquisitions bequest of Henry Schnakenberg; 1957 acquisition gift of Mrs. Elizabeth Thompson, Mrs. H. Rakin Olyphant and Mr. Ernest W. Smith in memory of Mrs. John Thompson of Farmington, Connecticut.

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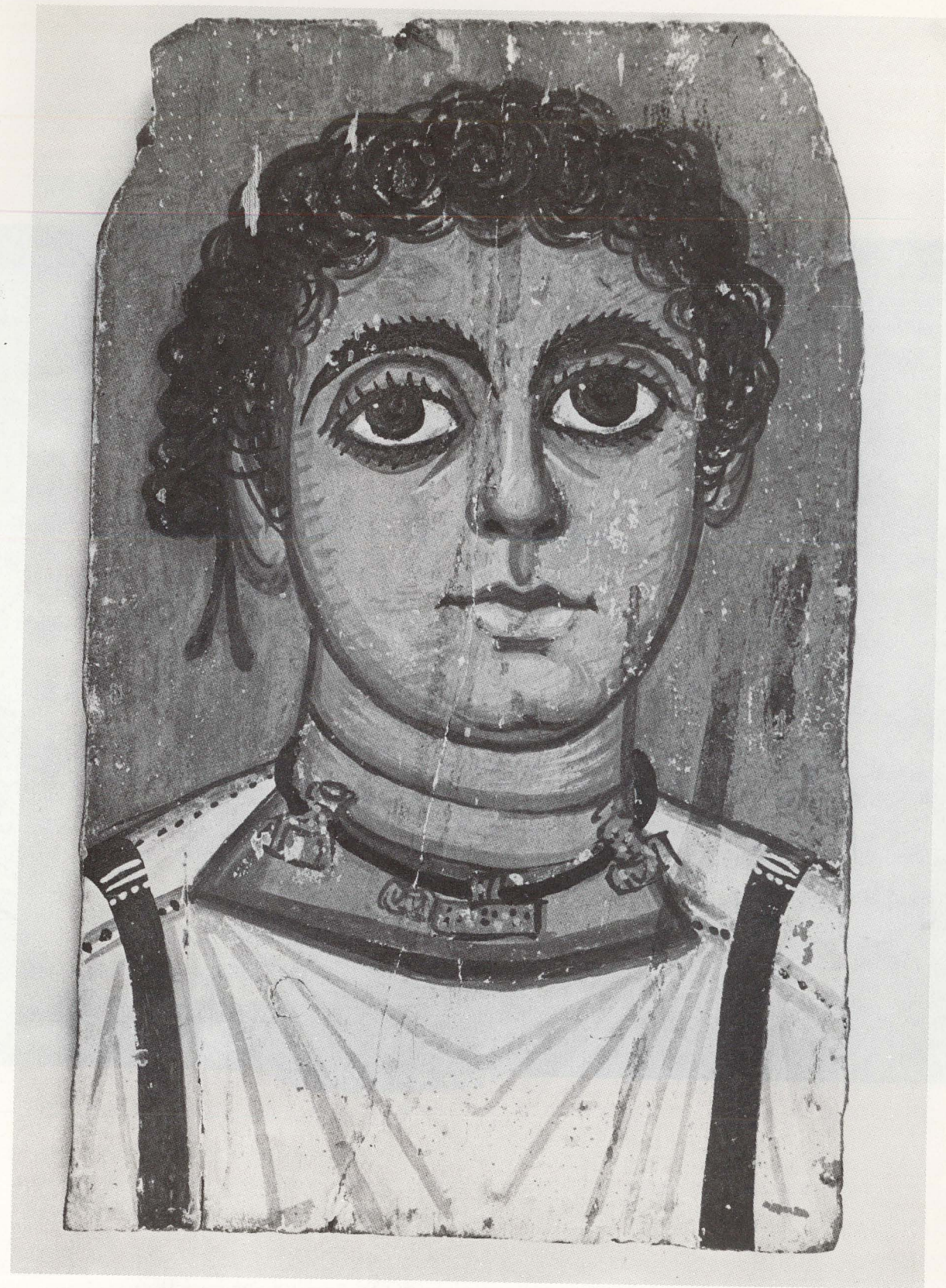
Fig. 1. STATUETTE OF A MAN. Wood. Dynasty XII(?). Wadsworth Atheneum. Acc. No. 1957.135.



Fig. 2. USHABTIS. Faience. Late Period. Wadsworth Atheneum. Acc. No. 1971.52.21 and .20.



*Fig. 3. STATUETTE OF ISIS AND HORUS. Faience. Late Period. Wadsworth
Atheneum. Acc. No. 1917.518.*



*Fig. 4. PORTRAIT OF YOUNG BOY. Water-base paint on wood. Fourth century A.D.
Wadsworth Atheneum. Acc. No. 1971.52.119.*



Fig. 6. ARCHITECTURAL RELIEF WITH WINGED HUMAN BUST IN WREATH. Limestone. Fifth-sixth century A.D. Wadsworth Atheneum. Acc. No. 1971.52.139.



Fig. 7. VESSEL IN FORM OF A PEACOCK. Bronze. Fourth to eighth century A.D. Wadsworth Atheneum. Acc. No. 1971.52.50.

RIVERINE REALMS: IRAQ, EGYPT AND SYRIA DURING THE CLASSICAL ISLAMIC PERIOD, 750-1500/132-905

A characteristic feature of Middle Eastern realms during the classical Islamic period was that they were riverine. For a short while, during the great Islamic expansion from 634 to 711, it seemed almost as if the Umayyads were building a sea-borne empire similar to that of the Romans, only larger and stretching from the Mediterranean Sea to the Persian Gulf. But since the Byzantines were able to hold on to a share of the Mediterranean the Umayyads were unable to develop sea transportation into an efficient means of imperial power. Their ^CAbbāsid successors had to settle for a less efficient administration in which the transportation of troops, foodstuffs and money was handled by a combination of river barges and overland caravans. What at first looked like an emergent sea-borne empire reaching from Spain to India evolved into the twin riverine realms of Iraq and Egypt, connected by overland routes with each other and the other Muslim lands of the Middle East and North Africa.

My current research project focuses on the social history of these twin riverine realms, Iraq and Egypt, as well as on Syria which linked the two and was a dependency of either the one or the other throughout the classical period. This research is based on the already published materials as well as on a large number of unpublished historical, geographical, legal and technical sources (the latter being for the most part in Arabic and dating from the ninth to the sixteenth centuries).¹ In this report I shall present an outline of the basic socio-historical theses which guide my research. The ultimate goal of the work I am doing is the publication of a detailed study, in book form, of the historical interplay between rural and urban demographic densities, technological opportunities in countryside and cities propertied strata, and ruling classes. Although my work relies on--and gratefully acknowledges--the research carried out by others, especially in the areas of fiscal and urban development, I know of no author who has analyzed the basic interconnections between demographic, technological, stratificational, and governmental levels in what I am formally designating as the classical Islamic "riverine realms".

Throughout the classical period the riverine realms were, of course, based on irrigated agriculture. Basin irrigation, cereal farming with the help of ox-drawn plows and all additional labor and agricultural investments were balanced well enough with

each other so that little incentive existed for tinkering with the technological setup. I have estimated, for example, that wheat yield ratios were in the range of 1:10-15--ratios which were not attained in even the most advanced agricultural countries, England and the Netherlands, until the sixteenth century.² This relatively high agricultural productivity permitted population densities which have been estimated at having been around point 7 on a scale from 1 to 10.³ People lived more closely together and were more evenly distributed (except for the large population concentrations in the capitals) than anywhere in Europe prior to the great demographic expansion in the second half of the eighteenth century. On the other hand, total population figures were much smaller than in Europe, given the relatively limited irrigated space in which the great majority of people lived.⁴ Thus, the irrigated riverine realms were characterized by comparatively dense, homogeneously settled populations.

Dense populations on comparatively narrow strips of land along river and canal banks did not require high investments in implements, tools, machines and land transportation, apart from irrigation-related works. Labor was relatively abundant and land transportation distances were short. By keeping production and transportation labor-intensive a labor pool could be maintained which was always easy to assemble and ready to work on the irrigation network. If, for example, the scratch-plow or scythe had been replaced by more efficient, labor-saving implements, the rural labor pool would have decreased, leaving fewer workers for maintaining or expanding the irrigation works. This remarkable technological stability which, together with labor intensity, supported a respectably high productivity in the Middle East during classical Islamic times was clearly rooted in the dense population patterns and short land transportation distances characteristic of the riverine realm.

By comparison, in Europe a larger population was distributed more unevenly over a larger geographical area. Here investments in labor-saving production and transportation improvements were, by necessity, higher. In order to fill the empty spaces between the more densely populated areas during the great agricultural and urban expansion from 950 to 1350, more than just cheap labor was needed, hence the appearance of heavier plows, the spinning wheel and the stern rudder.⁵ After the great demographic crisis of 1350-1450 created by the Black Death, when empty spaces reappeared, an abandonment of the production and transportation gains from the preceding period was the least affordable alternative. Technological progress remained programmed into the course of European history.

The overall smaller but more evenly distributed and densely settled populations of the Middle Eastern riverine realms stayed with labor-intensive technologies, given the need of a large labor force for irrigation works--therefore the phenomenon of little change, particularly in the countryside, during the classical

Islamic period. Of course, ultimately Iraq and Egypt were not without their own potential technological challenges, for instance, should all land irrigable by traditional methods have been under cultivation. However, as far as can be established from the available sources, the limits of the inherited irrigation technology were never tested and the population could always find enough land during the classical period. Population expansion and shrinkage were absorbed by a corresponding enlargement and reduction of the irrigated surface without the additional technological changes necessary in Europe.

Dense settlement patterns encouraged specialization and exchange. In fact, it was through specialization and exchange that this density could be further increased. Urban centers with intensified garden and orchard cultivation, as opposed to the more extensive self-sufficiency agriculture in some of the hinterland, are evidence of increased population densities.⁶ However, the riverine realms were obviously not merely federations of such urban centers, each surrounded by its ring of garden, orchard and self-sufficiency agriculture, as was the case in Europe during the high Middle Ages.⁷ They were, rather, centralized entities with large capitals, receiving their food supplies from villages along the entire navigable length of the rivers. These larger catchment areas allowed the establishment of dense population concentrations in the capitals which were sizeable enough to require an expansion of specialization and exchange from the riverine to the international level of differentiation, involving luxury manufactures and spices. In the Iraqi and Egyptian realms a substantial portion of the population, perhaps as large as 30 percent (as in high medieval upper Italy), was packed into the capitals.⁸

One of the main concerns of the capitals was the control of distant villagers. These villagers were basically either peasants engaged in self-sufficiency agriculture, that is, in the unspecialized production of nearly the entire array of fundamental needs, from agriculture and husbandry to clothing and shelter. Or they were peasants who lived within various provincial urban rings of intensified and extensive agriculture where they were engaged in a mixture of unspecialized subsistence production and specialized agriculture and exchange. The riverine capitals, however, made specialized staple food farmers out of these reluctant peasants, in order to guarantee the feeding of the urban artisans and workers. The maintenance of specialization on the level of international trade in spices and luxuries in Iraq and Egypt required a strict organization of rural production in distant areas where little specialization and exchange would have existed otherwise.

During the classical period a variety of methods were tried to organize rural production at greater distances from the capitals. The one which the early Arab Muslims used during the time of imperial expansion was taxation by salaried central officials

probably the least efficient method. A small force of bureaucrats had to rely on indigenous district and village landlords whose interests were primarily provincial. Tax-farming, which evolved after the end of the conquests under the early ^CAbbāsids, was more efficient, insofar as it tied the salaries of the central officials to the productivity of the tax districts. However, since it still did not involve more than the creaming off of taxes from the villagers and left the allocation of agricultural resources in the hands of local notables, the gain was not appreciable. It was only when the capitals finally switched to the tax assignment (iqṭāʿ^C) system that one can speak of some centrally controlled agricultural production even in distant villages. Assignment holders (muqṭaʿūn^C) particularly in Egypt during the Ayyūbid and Mamlūk periods (1171-1517), went regularly to their villages and supervised the distribution of seed and labor tasks by their local agents in order to ensure that the villagers were primarily producing food staples for the capital. Thus, during the classical period of Islamic history a clear trend away from a superficial to a more direct central urban involvement with rural production can be discerned.

About the same time, Europe went through a similar evolution of society from village- to urban- to capital-controlled agricultural organization. There are some important differences, however. On the one hand, in Europe--as in the Middle East--the emergence of major cities and capitals was facilitated by easy river communication. Milan, Cologne, Berlin, Paris and London were all blessed with navigable rivers. On the other hand, contrary to the situation in the Middle East, much land was situated away from the rivers--too distant for food staples to be produced for and transported to the capitals. Any central control of production on this land was precluded and had to be left in the hands of local landlords who gradually turned their feudal holdings from the unspecialized and superficial manorial into the more specialized and efficient urban system of rural organization. When royal capitals eventually emerged in the course of the twelfth and thirteenth centuries they did so alongside the provincial urban centers without being able to absorb them.⁹ In the Middle East the short distances from the hinterland to the river and canal banks permitted the transportation of bulky staples; local landlords therefore lost out to the capital once the latter became specialized and sophisticated enough to descend more directly on the villagers. In Europe, on the contrary, the landlords in the hinterland evolved into a property-owning nobility sharing the growing urban grip on agricultural production more or less evenly with their rulers in the capitals. Urban control over rural organization was exercised not only in the form of taxes, tax farms and tax assignments, but also in rents, leases and eventually direct agricultural entrepreneurialism.¹⁰ This is not to say that the latter forms did not exist in the Middle East, which they did, but there they were restricted to suburban properties around the capitals, not in the hinterland. Even though Europe and the Middle East shared the same process of tightening of urban control over rural organization, in Europe it was a far less centralized affair than in the Middle East.

The evolution from a superficial to a more direct control of agricultural production in the Middle East during the classical Islamic period can clearly be regarded as a process of historical differentiation. As such, this position stands in a marked contrast to the story of political and rural decline during the period from 750 to 1500 which has been told in so much of modern historiography. Granted, it is highly tempting for a modern historian faithful to his sources to take the classical historians at face value when they earnestly narrate events involving incompetent caliphs, greedy officials, and ruinous taxes. However, it is equally important for the modern Middle East historian to overcome the naive historical methodology of Orientalism which ignores the important difference which exists between classical annalistic and modern analytical historiography. Classical Muslim annalistic historians saw the historical process from the short-term angle of one year, year following year, and thus could not help but emphasize the moral-exemplary meaning of what they were writing about. Modern analytical historians are faced with vastly enlarged masses of knowledge and consequently with more troubling problems of long-term perspective, can no longer be content with merely moral-exemplary narrative. They have to broaden the narrative into political, social and economic analysis--a broadening which has already taken place in European history but is still lacking in Middle Eastern studies.

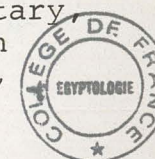
In a long-term analytical perspective it is now well recognized that from the Plague of Justinian (547) onwards, European, northern African and Asian societies were in sufficiently close contact with each other so as to cause them to share roughly the same demographic characteristics of population expansion and regress.¹¹ Although allowances have to be made for regional differences there is reason to believe, even given the scant information currently available, that the Middle East participated in the general demographic growth which was typical for the then known world from the Atlantic Ocean to the Chinese Sea from the time of the recovery from the Plague of Justinian to the Black Death in 1347 or in the demographic crisis which lasted from 1347 to about 1450 before the recovery set in. Although I am still in the middle of my research, I have discovered an ample number of passages strewn about in the narratives of the annalistic texts which furnish solid, and to my mind, legitimate documentation for our modern idea of historical evolution. These passages provide a sound documentary base which has allowed me to finally abandon what I have always regarded as a methodically questionable reliance of historical analysis on historical annalism which still lingers in Middle Eastern studies. The story of the great unfolding of the riverine realms still needs to be told.

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Peter von Sivers
1981-82 ARCE Fellow

NOTES

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REMOVAL OF WATER SOLUBLE SALTS FROM MASONRY AND POROSIMETRY OF A PHARAONIC VENEER STONE FROM THE SPHINX

ABSTRACT

Physical factors which influence the durability of stone include the presence of soluble salts in the pore space, and the pore characteristics of the stone. The salts from the stone may be removed by a newly developed technique, reported herein. This technique uses vacuum to circulate water through the stone and extract the salt-laden water at the stone's surface. The pore-study of a stone sample used during Pharaonic restoration of the Sphinx veneer is reported. This stone has proved to be highly durable, suggesting that the hysteresis loop developed by the mercury intrusion and extrusion of the stone be used as a guide for the selection of stone for replacing the decayed veneer.

INTRODUCTION

The presence of such salts as chlorides, nitrates, and sulfates of calcium, magnesium, and sodium in masonry materials is highly deleterious because these salts, by repeated solution, crystallization, and hydration, generate sufficient pressure to fragment the masonry. These salts are commonly seen as efflorescences on buildings in all climatic conditions where they are primarily responsible for the spalling of brick and stone, but they are ubiquitous and far more deleterious in arid regions of the world. Here the lack of precipitation results in a large-scale accumulation of these salts, which ordinarily are washed away by rain. This, combined with the frequent night-time condensation of moisture on stone surfaces and its evaporation at sunrise disintegrate the stone due to ensuing crystallization pressures.

A common technique for the removal of salts from stone is the application of surface-active poultices produced from such materials as clay minerals, paper pulp, etc. The wet poultice is applied on the stone surfaces whence they attract the salt. When dry, the poultice is replaced with another wet poultice. The repetitive application of poultices is able to remove salts from the near-surface regions of the stone only. The salts remaining at greater depth limit the usefulness of this process. Further, the crystallization of salt at the poultice-stone interface causes damage to the stone.



The efflorescences are also removed by washing with water, steam, solvents, etc. All these processes have the common shortcoming imposed by the capillary force which tends to pull these media, with the dissolved salts, into the deeper layers of the masonry while removing some salts from the surface regions.

Further, to remove salts from stone, vacuum has been applied in the past to clean small specimens which could be handled in a laboratory. Proper attachments allowed the air to be removed from these encapsulated specimens followed by the passage of water which rinsed the pore space of the specimens. This appears to be the most effective method to remove salts from small masonry specimens.

A procedure allied to the above-described method is the impregnation of porous media with liquids which subsequently harden and thus consolidate the stone. The BELVAC PROCESS uses polyethylene sheets, etc. to make an airtight envelope at the object's surface. Vacuum is then applied to remove the air from the pores. Subsequently, the ports are opened for the liquid to enter the pores and thus impregnate the stone fully in depth.

Theoretically then, the use of water instead of consolidants and the continued application of vacuum at another port would remove the solution from the pores of the stone. With this background, we have developed a new technique which makes polyethylene sheets or containers unnecessary for vacuum desalination of stone. This procedure was developed for the restoration of the Great Sphinx at Giza which is carved from limestone strata and has a veneer of limestone blocks covering the lower portion of the parent rock core. In earlier studies it had been determined that the deterioration of rock layers at the Sphinx was directly related to the quantity of salts present (Gauri, 1981).

DESCRIPTION OF EXPERIMENTS

We deposited NaCl in slabs of Indiana Limestone by immersing the stone for several hours in a saturated solution of the salt. After the stone had dried, we obtained powder samples by drilling into the stone to given depths. These samples, as well as samples desalinated by our technique (Table 1 and 2) were analyzed by Atomic Absorption Spectrophotometry to determine the percentage of Na^+ in the stone at different depths from the surface. One slab prepared in this fashion was subjected to vacuum desalination as described while water was continuously run over the other slabs for the same period of time as the period of vacuum application on the first slab. This was done to compare the relative efficiencies of the two systems for removing salts from the stone (Fig. 1).

In actual experiment a funnel was fastened to the stone's surface by means of silicon putty on the external rim of the funnel (Fig. 2). A stream of water was allowed to run so that the stone was covered by a sheet of water on all sides. After nearly one-half hour of water application (our previous experiments had shown that in this time the water would rise vertically nearly $3/4$ inch into the stone by the force of capillary alone) the vacuum pump to which the above funnel was attached was started. The vacuum gauge showed that a stabilized vacuum of approximately 29 inches of Hg was attained in the funnel within a few minutes. Shortly thereafter droplets of water began to ooze from the stone surface within the funnel. This water was collected in a flask and analyzed for its salt content.

In another experiment, a block of limestone was immersed in water after a funnel had been fastened to one of its surfaces. Once again, after allowing the water to penetrate the stone to a depth of nearly one inch, the vacuum pump was started. While the salt water was being removed from the pores of the stone at the surface enclosed by the funnel, the water surrounding the block replaced the salty water. In this experiment, the amount of salt retained in the stone was larger because the water in the container in the experiment was not being exchanged with fresh water.

MERCURY INTRUSION POROSIMETRY OF A SOUND PHARAONIC STONE

Presence of salts is but one factor controlling the durability of stone. Another important control is the pore-size distribution. While the stone of the core of the Sphinx can be treated by desalination only, the replacement blocks for restoration of the deteriorated portion of the veneer should be selected such that they contain as little salt as possible and have optimal pore-size characteristics. The last is the subject of the following discussion.

Certain stones have some pores which under normal conditions do not become filled with water. This may be due to the size of the pores or their being unconnected with other pores. The freezing of water in cold climates, and the allied phenomenon of salt crystallization, are attended by an increment of volume. The pressure that generates from this causes the solutions from the filled pores to penetrate the empty, otherwise impenetrable, pores. The pressure generated by the increased volume in a confined space is thus released.

Intrusion of pores by mercury (a non-wetting medium) under pressure is one of the methods to determine pore-size distributions. Assuming that the pores are cylindrical and interconnected, a relationship exists between the size of the pores and the intrusion volume of mercury under a given pressure. However, in natural stone the pores have complex geometries. Robertson (1982) has stated that the use of the above relationship to determine pore-size distributions is fruitless in natural stone,

since the pores may have narrow necks and large bellies. However, on the basis of the energy needed to fill and evacuate pores and the slope of the hysteresis loop, he has, for the Portland Limestone used in many British monuments, established correlations between PV-energies (where P is the applied pressure and V is the volume of intruded mercury) and durability of stones in monuments and from quarries which have weathered well in outdoor exposure.

Fig. 3 is a hysteresis loop of a sample of a Pharaonic veneer stone which has weathered excellently at the site of the Sphinx. New stones for replacement should be compared against this stone for a dependable selection.

ACKNOWLEDGEMENTS

The ARCE partially funded the research. This report represents the initial work. For further development this subject was assigned to Mr. Williard Vaughan as a Master's thesis project required in the Department of Chemical and Environmental Engineering, University of Louisville. Professor Holdren and this author were the thesis advisors. The thesis has now been completed and the project will be reported in greater detail under joint authorship in a forthcoming publication. Dr. Patke generated the hysteresis loop shown in Fig. 4.

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Table 1 Content (percent weight of stone) of artificially deposited Na⁺ in stone and the amount of sodium left after the vacuum treatment.

	Depth From Surface	Na ⁺ ; Artificially Deposited	Na ⁺ After Vacuum Application
Specimen 1	0 - 1/4 in.	0.45	0.00
	1/4 - 1/2 in.	0.21	0.00
	1/2 - 3/4 in.	0.08	0.00
	3/4 - 1 in.	0.31	0.00
Specimen 2	0 - 1/4 in.	0.47	0.00
	1/4 - 1/2 in.	0.28	0.00
	1/2 - 3/4 in.	0.26	0.00
	3/4 - 1 in.	0.22	0.02

Table 2 Content (percent weight of stone) of Na^+ with increasing distance from the site of vacuum application (vacuum nearly 29 inches of Hg applied for 2-1/2 hours; diameter of the funnel 3 inches).

Depth From Surface	Without Vacuum	At Vacuum Site	5 in. From Vacuum	10 in From Vacuum	15 in From Vacuum
0 - 1/4 in.	0.47	0.00	0.05	0.47	0.44
1/4 - 1/2 in.	0.28	0.00	0.02	0.02	0.15
1/2 - 3/4 in.	0.26	0.00	0.02	0.22	0.22
3/4 - 1 in.	0.22	0.02	0.00	0.20	0.14

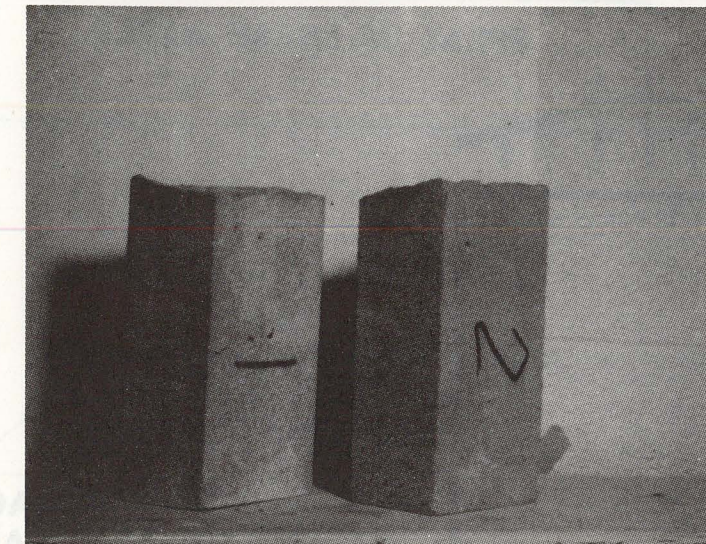


Figure 1. Relative efficiencies of simple water rinse (Specimen 1) and water rinse under forced (vacuum) condition (Specimen 2). Note that the salt has not appeared on the dried surface of Specimen 2 while the surface of Specimen 1 shows significant salt encrustation.

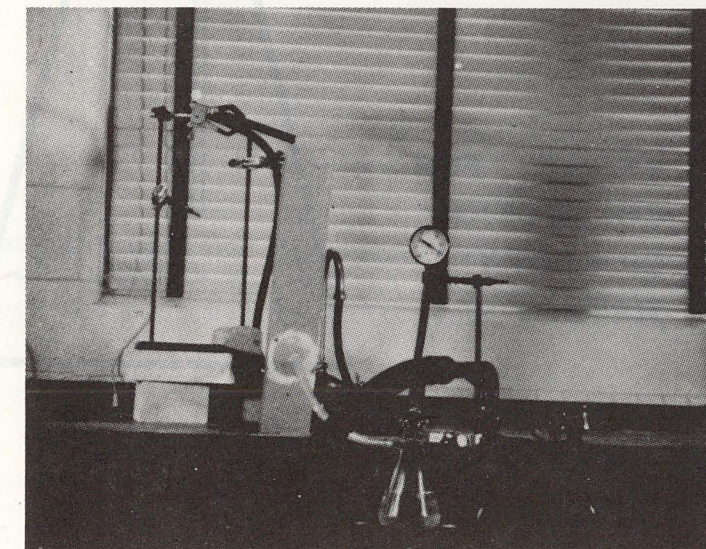
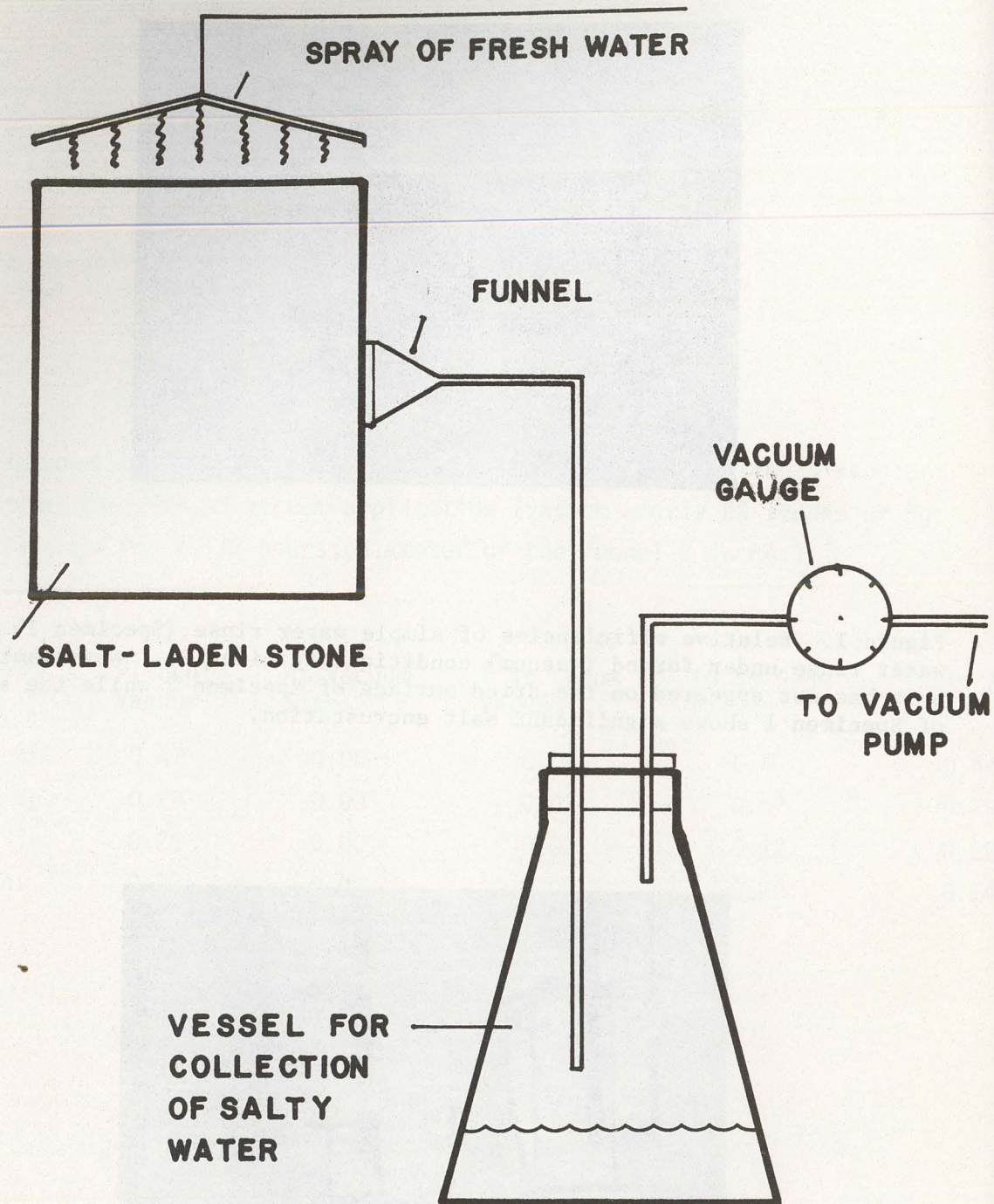


Figure 2. The configuration of the experimental setup.



CONFIGURATION OF INVENTED SYSTEM

Figure 3. The line drawing of the setup shown in the photograph in Figure 2.

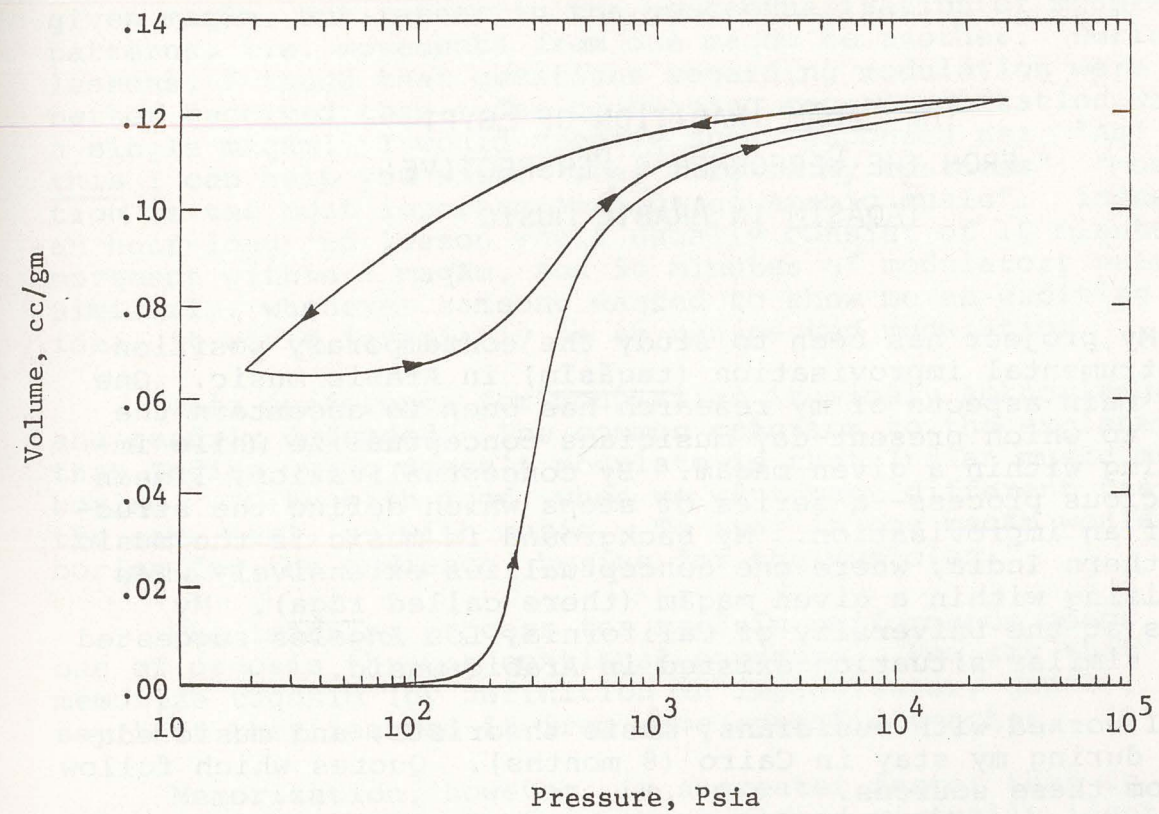


Figure 4.

Volume of mercury intruded and extruded from a stone used during Pharaonic restoration of the Sphinx. This is the most durable stone having been excellently preserved over nearly 4,000 years of its exposure.

THE MAQAM TRADITION OF EGYPT FROM THE PERFORMER'S PERSPECTIVE: TAQASIM IN ARABIC MUSIC

My project has been to study the contemporary position of instrumental improvisation (taqāsīm) in Arabic music. One of the main aspects of my research has been to ascertain the extent to which present-day musicians conceptualize while improvising within a given maqām. By conceptualization, I mean a conscious process--a series of steps which define the structure of an improvisation. My background in music is the music of Northern India, where one conceptualizes extensively when improvising within a given maqām (there called rāga). My studies at the University of California, Los Angeles suggested that a similar situation existed in Arabic music.

I worked with musicians, music theorists, and music educators during my stay in Cairo (8 months). Quotes which follow are from these sources.

I have found that there is virtually no conscious conceptual scheme which musicians call upon to organize their music during moments of improvisation within one maqām. During lessons, I received such comments as: "Well, you can play anything you want"; "You should play a small section of the scale here, a larger section of the scale there, smaller here, larger there" (with no specific ideas in mind of what "here" and "there" were referring to). During other lessons I received rather fanciful conceptual schemes, created, it would seem, solely for my benefit, as they did not in fact represent a reality that I had ever heard in the Arabic taqāsīm.

Thus, my initial thoughts on the similarity of the conceptual schemes used in Arabic and Indian music traditions proved to be false, without basis.

A surprising aspect of the level of conceptualization prevalent among Egyptian musicians is the lack of recognition given to a large body of cliché phrases used to evoke the different maqāmat. It is possible to hear a tasāqīm, 90% of which is made up of these "stock phrases". However, I have yet to hear anyone list or isolate these phrases (with the exception of Jihad Racy at UCLA). Most musicians deny their existence; one acknowledges their existence but says that they are to be avoided.

Arabic music excels not in conceptualization within a given maqām, but rather in the conceptualization of modulatory patterns, i.e. movements from one maqām to another. During lessons, I found that questions regarding modulation were better received than those concerning conceptualization within a single maqām. I would receive such responses as: "Ah! Now this I can help you with. Yes, this is my business"; "Modulation is the most important aspect of Arabic music". Indeed, an hour-long 'ud lesson would usually consist of 10 minutes of movement within a maqām, and 50 minutes of modulatory patterns. Similarly, whenever someone wanted to show me an exciting new idea, it would invariably be an unexpected modulation.

This preference for modulation is widely acknowledged and readily defended. The common reaction to the explanation that Indian music doesn't modulate is that Indian music must be boring. "Like with food, when we want many different tastes in the same meal, so with music. To stay in one maqām would be boring for the audience, boring for the musician."

The learning process for taqāsīm performance seems to be one of osmosis through continual exposure. Few say that they memorize taqāsīm (by definition an improvisatory genre); none say that they learned it from some specific teacher.

Memorization, however, is a greater factor than is generally admitted. Two of my teachers played virtually identical taqāsīm on two different occasions. One played 7 minutes out of an 8 minute taqāsīm quoting a previously performed taqāsīm. (Few would ever be in a position to realize that a given taqāsīm is memorized. By and large taqāsīm are not made up of melodies but rather of geometric figures. These are not as easy to remember as tuneful melodies. Thus a musician can safely deny having memorized any part of his improvisation. Transcription and memorization of others' taqāsīm have made it possible for me to detect instances when musicians are indeed performing "set" taqāsīm.)

Other issues I have dealt with include: 1) the position of taqāsīm in the overall repertoire; 2) theoretical constructs which link the various maqāmat, including the concept of "branches" within tetrachordal theory; 3) the genres which make up the contemporary instrumental repertoire; 4) the make-up of present-day music ensembles, with emphasis on the 'ud in contemporary music; 5) variability of intonation; and 6) use of accidentals.

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A PRELIMINARY REPORT ON A STUDY OF THE SYSTEM OF PHYLES IN THE OLD KINGDOM

INTRODUCTION

During the entire span of ancient Egyptian history, the priesthoods of its gods and kings were composed, at least in part, of priests who served in the temple for only a few months out of the year, spending the remaining months either in other temples or in a non-priestly job. The mechanism that allowed and organized this part-time labor was a system of groups, called ggr III, z3w, φυλακ in Greek, and hence "phyles" in modern scholarship. Each part-time priest belonged to a phyle, and worked in a temple when his phyle was in service there.

The Old Kingdom version of this system was initially assumed to be very much the same as it was in the later periods,¹ but as more evidence emerges, the difference seem more and more striking: in the Old Kingdom, phyles are identified by name rather than numbers; there are five rather than four phyles; because each phyle was further subdivided into two divisions which worked at different times, the frequency of service in temples was one month in ten rather than one month in four. Perhaps the most important distinction, however, is the higher offices in which the system was used in the Old Kingdom.

The phyles of the Protodynastic Period (Dynasties I and II) seem to have been important and intimately connected with the king. They occur on fragments of stone jars of most of the major kings of the period starting with Den.² In the Old Kingdom temples, the system was used among the hmw-ntr, priests who performed many of the rites and were second in status only to the lector priest (who was probably not a phyle member, though lector priests may have served in some other system of rotation³). By the Middle Kingdom, in contrast, the hmw-ntr were permanent, professional priests, with the chief among them serving as the administrative head of the temple. The best attested use of the phyle system in this and later periods was to organize wCb priests, a priesthood of relatively low status.

PROJECT

Because of the role the phyle system played in integrating temple cults with the state bureaucracy, and of the use of this system in other areas of national service during the Old Kingdom,

a study of the nature of the system of phyles during this period could have important effects on our picture of Old Kingdom society. I am attempting such a study as a doctoral dissertation for the University of Chicago. In 1981 I received a one-year, pre-doctoral fellowship from the ARCE to make use of the material available in Egypt on this topic.

This material fell into three major categories: published material which required further checking of the originals, unpublished material the existence of which was known or suspected, and unsuspected sources. The published material was, of course, the most accessible, the bulk of it being either on display at the Egyptian Museum (at least in the earlier parts of my stay) or in the tombs at Saqqara and Giza that are open to the general public. The unsuspected sources could not be systematically investigated, as they were, by definition the result of luck and general vigilance, since the quantity and inaccessibility of the old Kingdom material in Cairo made it impossible to do a thorough search of all the excavated material. Hence, most of my time and attention was devoted to researching the second category, while keeping alert for new evidence that might be applied to the problems.

Some of the evidence I needed to see consisted of reliefs and architecture still in situ in tombs and temples at Giza, Abu Sir, and Saqqara. Other pieces were in the collections of the Egyptian Museum in Cairo. The differences, administrative and practical, between working on these two types of evidence meant that I was, in essence, working on two small projects at once. The work at the Museum was logistically simpler, and thus was fitted in around my visits to the sites.

PRELIMINARY WORK

I spent the first two months of my fellowship surveying the situation at Saqqara, Giza, and Abu Sir, and following up questions in the various Egyptological libraries in Cairo, in preparation of a formal request to the Antiquities Organization. Since it is obviously impossible to gain access to every decorated Old Kingdom tomb, I developed a list of tombs in which I had some hope of finding references to phyles, either because of information already published about them or because of the architectural plan (for example, tombs with magazines consisting of five storerooms, presumably one for each phyle).

On-site inspection before submitting my formal list of requests to the Antiquities Organization proved to be a wise precaution. In some cases, the tombs and temples I wanted to see had been almost completely destroyed, or were left open to any passerby, so that I was able to check the parts I wanted to see during my initial inspection. Other of the monuments I had hoped to see had been lost since their excavation by Mariette or Lepsius, and in my initial survey I hoped to find traces of

them, and perhaps even apply for permission to clear anything promising. Without exception, I failed to find any of these lost tombs.

After submitting my petition to work in various tombs at Giza and Saqqara to the High Committee of the Antiquities Organization, I focused my attention on the Egyptian Museum. While waiting for the approval necessary for field work, I obtained permission from Dr. Mohammed Saleh, director of the Museum, to search the journal d'entrée for a number of pieces described by Mariette but never published elsewhere. I was assisted in this search by Mr. Galaal and Miss Siham of the Museum staff, who were very helpful. I had hoped that my work with the journal might lead me to other unpublished pieces relating to phyles; but unfortunately, the entries from Mariette's expeditions and others of the period are extremely abbreviated (many of the pieces and their provenience are described simply as "une stela de calcaire" from "Saqqara"), and I was not even able to determine whether the pieces I sought had ever been acquired and registered by the museum, or to add any new pieces to my references.

I also located and checked the numerous published pieces in the museum about which I had had questions. As it turned out, it was fortunate that I did so at that time, as many of the pieces I was able to check in this way were subsequently removed from display as part of the museum's renovation program. During this period I also made a thorough survey of the other material on display in the museum. This survey, though it was useful later in finding pieces which I noted in my subsequent reading and wanted to see, did not result in any new material, since most of the pieces on display are published. It is the (presumably) largely unpublished material not on public display and unavailable for detailed study that has the greatest likelihood of yielding something new. A later search through the fiche for the Old Kingdom rooms was only slightly more productive. These card files give descriptions of pieces, with sketches and/or photographs, and are organized by position in the museum, as a shelf list. The rooms on the main floor that are not open to the public and serve as storerooms are included in this file, as are a number of pieces that are no longer on display. I was able to add some notes to my collection on the basis of these cards, and I am grateful to Professor Geoffrey Martin for pointing out their existence. There seem to be no corresponding files for the material stored elsewhere in the museum (for example, in the basement), and it proved impossible to determine whether there was any other material relevant to phyles in the Museum's collection.

WORK AT GIZA AND SAQQARA

While waiting for my permissions to be granted, I had also begun researching and writing a section of my thesis dealing with the system of phyles as it was adapted to the organization

of work crews that built the pyramids and other Old Kingdom monuments. It was necessary to determine whether these crews were the same groups who later served as priests in the monuments they had built, and, if not, whether there were differences in the organization of the phyle system used in temples and that in work crews. I was able to do most of this research at the ARCE library and at the library of the French Institute, but as my argument developed, it became useful to revisit these monuments, to note details not mentioned in the publications. I was able to do so, of course. In this connection, I am very grateful to Mark Lehner, field director of the ARCE Sphinx Project, who generously spent an afternoon wandering around the Mycerinus complex with me, patiently answering my questions about building and quarrying techniques.

After a number of bureaucratic delays, largely due to my not having realized that a security clearance was necessary for merely viewing, photographing, and making notes on previously excavated tombs, I became an officially constituted expedition of one. I was then able to begin making regular visits to the inspectorate at Giza, where I was advised about my work by Dr. Ahmed Moussa, and patiently accompanied in the execution of it by Miss Amaal Samuel. Later I moved on to Saqqara, where Mr. Said el-Fiqi and his assistants gave me all possible assistance and cooperation, despite the fact that a good portion of my visits fell on some of the hottest days of Ramadan.

RESULTS

The results of my work during the 1981-1982 fellowship year are not easy to summarize. By far the greatest part of that work was checking details which were then integrated into work I did both before and after my stay in Egypt. Since these details form the basis for my argument and conclusions, however, their accuracy is of the greatest importance. It would be difficult, not to say boring, to discuss these disconnected details here, but two minor discoveries are worth a brief mention as examples of the sorts of work I was doing.

One of these relates to the work I did on phyles in work crews. The "mason's marks" which mention the names of work gangs and often also the phyles and phyle divisions under them, are traditionally published with little or no information about their relative location, obscuring their relationship to the architecture on which they were written. Visits to the site are of use simply to clarify these relationships. I had done a good deal of work on the mason's marks on the mortuary temple of Mycerinus, but only when I had located the blocks where marks occurred at the site, and combined this knowledge with the various possible ways the temple could have been constructed, did the actual organization of the labor used to build it become clear.

A system of rotating phyles like that attested from the priesthoods of Abu Sir could not have been operating there. The phyles of the royal work crews seem to have worked two at a time, and quite possibly had a longer period of service. There seem to have been four divisions in each phyle, rather than two; and the divisions which in the temples only further divide the rotation period (from a five- to a ten-month rotation) seem to function in the organization of the work and the assignment of various tasks. These differences may be partly due to the different periods from which the evidence survives. It has been recently argued by Stadelmann, however, on the basis of quite different evidence, that the workers and the priests were more clearly distinguished from one another than has been generally assumed;⁴ hence the different organizations could be another manifestation of this separation, as the tasks performed were certainly different.

Another product of my research, one with implications both exciting and perplexing, was the discovery that a scene from a private tomb dealing with phyles contains two additional registers not shown in the publications,⁵ including the earlier part of the caption of the scene. This caption describes the four rows of men, some of whom are identified with the phrase "[phyle name] n hzt", as bringing cloth to a festival of circumcision and to something else less clear. Much work remains to be done on this scene and the accompanying texts, but they should be major additions, both to the scanty corpus of direct references to the phyles and the even rarer material pertaining to circumcision. I am very grateful to Peter der Manuelian for making a tracing of this badly weathered scene for me, and to Dr. W. K. Simpson and Edward Brovarski of the Yale-Pennsylvania Expedition to Giza for suggesting the tracing and for allowing Peter the time away from their project to do it.

ACKNOWLEDGEMENTS

It is generally believed that, however valuable, the data and insights garnered for one's thesis during the tenure of a pre-doctoral grant such as this one are equalled in importance by other opportunities: to learn the lay of the land one is studying and to meet scholars in one's field, established and also aspiring. This was quite true in the case of my project. At every turn, I met Egyptologists ready to offer advice, assistance, illustrative experiences of their own, and when nothing else availed, sympathy. Among them, I am especially grateful to Madame Posener, director of the French Institute in Cairo, and Dr. Miroslav Verner, director of the Czechoslovakian expedition to Abu Sir, who generously allowed me the benefit of some of their unpublished data. Though I have had to abandon some of my most cherished theories as a result of this new evidence, it is exciting to know that it exists.

I also owe much of whatever success I achieved to the staff at ARCE's Cairo office: to Jim and Susan Allen, for helpful advice on a myriad of subjects ranging from Old Egyptian grammar

to modern Egyptian shopping; to Dr. Labib Habachi for his frequent words of encouragement; to May Trad for bibliographic help and for getting me to lectures; to Hana Tadros for intervention with the Antiquities Department; to Amira for preparing beautiful and effective letters; and to Ibrahim for gallons of timely ice water and tea.

Finally, I am grateful for the opportunity I had to meet and know my fellow fellows and the "extended ARCE family" in Cairo during the 1981-1982 year. As a group, they had dedication and a seriousness of purpose that were invariably inspirational. Our late-night arguments and discussions about methodology, the nature and future of scholarship, politics, academic politics, and unrelated topics were an education in themselves.

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Ann Macy Roth
1981-82 ARCE Fellow

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2. See, for example, Lauer & Lacau, *Pyramide à degrés* IV, pl. 4 #19 & #20; pl. 8 #40. Texts of this type give the names of up to four Dynasty I kings, probably written sequentially. The phyle name was clearly inscribed at the same time as the first of these, King Den.
3. P. Posener-Kriéger, *Les archives du temple funéraire de Néferirkarê-Kakaï* (Bibliothèque d'Étude 62) II. Cairo: IFAO (1976), p. 583 n. 3.
4. R. Stadelmann, "La ville de pyramide à l'Ancien Empire", *Revue d'Égyptologie* 33 (1981), pp. 67-77, has shown that pyramid towns populated largely by priests and others concerned in the royal cult are not at all to be equated with workers' settlements.
5. J. Capart, *Une Rue de Tombeaux à Saqqarah*. Brussels: Vromant & Col (1908), pl. LXV. Also Alex. Badawy, *The Tomb of Nyhetep-Ptah at Giza and the Tomb of Ankhm'ahor at Saqqara*. Berkeley: Univ. Cal. (1978), pl. 65. The latter merely reproduces Capart's photo of the lower registers of the wall.

CHANGING ROLE OF ISLAMIC LAW IN EGYPTIAN LAW AND CONSTITUTION

My research in Cairo from October 1981 to November 1982 was sponsored by the ARCE and the United States Information Agency (formerly the International Communication Agency).

Perhaps because I am a lawyer as well as a student of Islamic law, overall my research interests run in the matter of the contemporary application of Islamic law, in areas also of legal and constitutional concern in the West, such as the written constitution, the organization of the judicial system, the authoritative interpretation, through decree, legislation, court decision, etc., of the law to be applied, court procedure, evidence, judicial method. In other words, my concern is less with the substantive rules of Islamic law than with the theory, conceptions, methods and practice of legal and constitutional systems which determine and apply these rules. I narrow these investigations by concentrating on key areas of contrast with the West. Throughout, my techniques of analysis and explanation are those of law, but in this I include both Islamic and Western law.

Within this general approach I proposed for my research in Egypt study of manifestations in legal and constitutional fields of the popular call, heard for many years in Egypt and steadily increasing, to "return to" the sharīʿa, to "apply" sharīʿa, to require rule by sharīʿa constitutionally and legally. At the time of my proposal this trend of opinion had already given rise to some tangible results. First, in May 1980, a significant amendment was made to the Constitution of 1971. Article 2 had read, "the principles of Islamic law (mabādi' al-sharīʿa al-islāmīya) are a principal source of legislation (maṣḍar ra'īsī li-al-taṣhrīʿ)", but the wording now became "the principal source (al-maṣḍar al-ra'īsī)". Second, already underway in the People's Assembly at the time of the amendment and confirmed by it was a legislative program to bring Egyptian statute law into total agreement with sharīʿa provisions, this process being called "codification of sharīʿa (taqnīn al-sharīʿa)".

These matters of legal fact, and similar events to occur, were of course central to my proposal. But I also hoped to look behind such events to the theoretical positions they reflected. Further I hoped to sample the ongoing and varied ideological debate entailed by the call to "return to sharīʿa" with key participants in this debate the Islamic groups (jamāʿāt islāmīya), and the Muslim Brothers through the periodicals al-Daʿwa and al-Iṭtiṣām.

Such in sum was my proposal. Clearly, I had hoped to witness significant developments in Egypt in terms of new laws and new forms of legal practice reflecting the sharīʿa. Such developments did not occur, as I shall explain more fully below. In particular, progress on taqnīn al-sharīʿa in the People's Assembly was slow, remaining at stages where deliberations and drafts were still confidential. Therefore, I was obliged to turn more to analysis of the theoretical legal or constitutional positions held, with regard not only to legislative proposals, such as taqnīn al-sharīʿa generally, or specific issues like prohibition of usury, but also with regard to broader issues, such as constitutional organization of the state; the Islamic legitimacy of a ruler; roles of the legislature, ʿulamā' and ruler in declaring legislation; the proper scope and method of ijtihād; etc.

A vital factor in my research was the effect of the events of September and October 1981, just before my arrival. These events were, of course, President Sadat's crackdown on opposition in early September--arresting more than 1,500 opposition and religious figures, dissolving religious organizations, closing publications; and then his assassination by members of the Jihād organization on October 6, which was followed by a sweep of Muslim extremist groups. Although President Mubarak soon released most of those arrested by Sadat, the prisons remained crowded with religious extremists and members of the jamāʿāt. While after some months the opposition newspapers resumed publication, al-Daʿwa and al-Iṭtiṣām remained closed (their place partly occupied by a new government-sponsored religious weekly al-Liwā' al-Islāmī). Reflected in the public debate following these events was heightened interest in Islamic issues, including those in the realms of politics, law and the state, but at the same time the further disappearance underground of the more radical or provocative views on such matters, except as matters for refutation, while the public discussion tended toward reconciliation and moderation of views. Sharing in the appearance of reconciliation one found in fact such figures as Shaikh Abd al-Hamid Kishk and Umar al-Tilmesani.

It was in this climate that I had to proceed. The advantage for research was an abundance of views and wide participation and interest in the public debate on some relevant issues. A disadvantage was the increased absence of certain groups from that debate. Another disadvantage, I soon found, was that for my purposes personal interviews were very inefficient. I did carry out some interviews--with Dr. Gamal al-Oteifi, Deputy Speaker of the Assembly and head of the taqnīn subcommittee revising the Civil Code; Dr. Ibrahim Ali Salih, vice president of the Court of Cassation and legal adviser on taqnīn to the Assembly; Dr. Tawfiq Hassan Farag, Dean of the College of Law, Alexandria University and member of a committee of law school professors consulted on proposed revisions of the Civil Code; and several faculty members (and students) of the al-Azhar

University College of Shari'Ca and Qānūn. These interviews revealed little not already better stated or exemplified in the press. I had hoped to become well-acquainted with exponents of the various viewpoints, and with their views personally and at depth, but it became clear that this would require, in the then current preoccupied mood, much more time than they and I had.

Instead, I found the press the most revealing observation point, both as to factual matters, such as the progress of taghīn al-shari'Ca, significant court decisions, etc., but also (along with other works in print) as to theoretical positions. In the press (I reviewed mainly the three dailies, Mayo and the opposition party newspapers, several religious weeklies and the popular magazines) appeared a voluminous debate on all matters of Islam's contemporary meaning and application, reflecting a great variety of opinions, often on topics of close relevance to my concerns. And the opinions expressed, though perhaps lacking the circumstantiality and close relevance obtainable in an interview, more than offset this by the significance of their being expressed in the press, for other Egyptians and often as part of an ongoing debate. Even the jamā'āt were in an obscured way participants, due to a project of the government to carry on a dialogue (ḥiwār) between young Muslim "extremists" held in jail and ḥulamā' from al-Azhar and elsewhere in order to correct mistaken ideas of the youngsters, with portions of this dialogue then being published. Also I drew on past issues of al-Da'wa from the time of its reopening in 1976, and on publications from outside Egypt but available there.

*This press review served to orient me to the current issues, their factual context and a variety of the views thereon. Where necessary for my purposes I would then follow up on factual details, identities of the persons involved in debates, and, whenever possible, further documentation. Essential as to the theoretical questions involved was to acquire the important legal and ideological works of contemporary Muslim authors available in the bookstores (along with a considerable number of the vital classical legal texts). My discussions with professors and students of the al-Azhar College of Shari'Ca and Qānūn often assisted me in selecting from among the modern legal works.

Overall, in this entire process of observation, the then-current and former adjunct professors of the ARCE, Professors Ali Hilal Dessouki, Hassan Hanafi and Afaf Mahfouz were extremely helpful and generous guides.

The most tangible results of all this research are that I now have organized files of various materials on my various topics, including most, if not all, the relevant articles appearing in the press I reviewed during this significant, rather introspective period. These include for the short term apt resources for two long articles.

Unfortunately for these articles, immediately following my year in Egypt I embarked on another full-time project, a Fulbright-Hays grant for further dissertation research in Saudi Arabia. This research is on the same generic topic--the legal theory and practice of the contemporary application of Islamic law--but in a very different context. In Saudi Arabia my research is largely in the courts and the legal system generally, and among ḥulamā' serving in that system, while in contrast in Egypt these had not been the most useful forums for inquiring legally into the deeper or frontier issues of the shari'Ca's application. There are many other highly revealing contrasts as well.

After my year in Saudi Arabia, my research in Egypt will likely see the light in the following three forms. First, my extensive material on taghīn al-shari'Ca, on fact and theoretical background, is now suitable to update and expand on the existing short treatments of the subject.* (My earlier results were the subject of my lecture in the ARCE Second Annual Roundtable, "Islam and Society in Modern Egypt", May 11-13, 1982). However, the taghīn project is yet to reach a very apt stage for analysis, at least legal analysis. The status of the project when I left Egypt was that six draft codes (not all of them, but including the penal and civil codes) were completed, and on the last day of the session, July 1, 1982, were submitted to a legislative committee. It was promised that during the summer the committee would debate the bills and hold public hearings (this did not occur), with full Assembly debate to begin at the start of the next session, fall 1982. At the same time it was indirectly admitted that some of the most difficult questions, including life insurance and investments earning interest, had not been settled. I have not been able to follow the matter while I am in Saudi Arabia, but friends in Egypt inform me that, as of a year later, July 1983, no press mention had been made of any legislative action on taghīn, nor have the draft codes been made public. That timetables for action should fail to be met has been throughout the history of the project notoriously the case. If at the end of my year in Saudi Arabia significant action has been taken, or indefinite further delay to be expected, with a two-week stay in Egypt my results could be updated for completion as an article.

Secondly, as a subject for a second article, I was able in Egypt to collect some very significant and largely self-contained material on Islamic legal issues in fact seriously and publicly raised by President Sadat's assassination, including issues decided in the assassins' trial. This material, part of which I used for a lecture to the Social Science Research Council Institute on Law and Social Structure held in Cairo during August 1982, perhaps even more urgently requires publication. Unfortunately,

*M. Martin & R.M. Mas'ad, "Return to Islamic Legislation in Egypt", CEMAM Reports (1976): 47-81; I. Altman, "Islamic Legislation in Egypt in the 1970s", Asian & African Studies 13 (1979): 199-219.

with the necessary delay in 1984 for the completion of an article, the material, by then somewhat dated, will need treatment within a broader theoretical frame, for which I also acquired the material while in Egypt.

The third form for my research, and the most important, is that my material on Egypt will constitute a section of my dissertation, and a constant reference point therein, giving vital contrasts with Saudi Arabia. In Saudi Arabia, practical circumstances are vastly different, but the same theoretical issues are under debate, obviously since the debate is one which extends beyond the borders of both countries. Egypt and Saudi Arabia, highly different and both extremely important from every point of view, form obviously an ideal pair for comparisons and generalizations.

I will conclude with the very pleasant obligation to thank, first, the institutions ARCE and USIA for the truly golden opportunity of research in Egypt, which meant to me far more than the above could ever indicate; and secondly, the individuals of ARCE, particularly each and every individual of the Cairo staff of the Center, for his or her unfailingly efficient and generous help. To each one I owe many kind favors. The Center was for me personally and for my research a truly invaluable resource, constantly relied on. My gratitude to all.

*Funded by the
United States Information Agency*

Frank E. Vogel
1981-82 ARCE Fellow

EDITOR'S NOTES...

DR. LABIB HABACHI OFFERED A FORMAL TRIBUTE IN HONOR OF DR. GAMAL MUKHTAR, THE FORMER PRESIDENT OF THE EGYPTIAN ANTIQUITIES ORGANIZATION, AT A SPECIAL RECEPTION HOSTED BY THE FRENCH INSTITUTE LAST SUMMER.

In his opening comments, Dr. Habachi thanked Mme. Posener, director of the French Institute and hostess of the reception, for her fine work in editing a Festschrift honoring Dr. Mukhtar.

Turning to the guest of honor, Habachi recounted Mukhtar's many achievements as President of the EAO and as an Egyptologist.

"Apart from the many students you have formed here and abroad, many of whom now occupy distinguished posts, you have successfully fulfilled your many obligations in the Antiquities Organization. For anybody working in this organization, that person has to keep safe the monuments in his charge, facilitate and encourage all expeditions and their members to work and add to our knowledge, encourage people in authority who are interested in our work to help us in our obligations, and, if time is still available, contribute personal scholarly research. You carried out all your obligations in the most perfect way. ...You were able to accomplish that wonderful monograph on the site of Heracleopolis Magna or Ihnasiya, Beni Suef, which played an important role in history, not only of Ancient Egypt, but of the periods which came after. Your help in writing the History of Africa, the Gnostic Codices of Nag' Hammadi, in the formation of the First International Congress of Egyptology and the first International Congress of Coptology, in the ICOM, the UNESCO, and in restoring Ed-Der'a in Saudi Arabia and monuments of Moritania and others are to be added to your great achievements, adding to the honor of Egypt."

Habachi called Mukhtar "...our Ambassador abroad for Culture", because he had given favorable impressions of Egypt and Egyptians to the many foreign countries he visited. He ended by graciously saying that if Gamal Mukhtar had been able to choose his name and day of birth, he could not have done better, for his name means "Chosen Beauty" and his birthday is July 14th, a day for celebrating liberty.

NOTES FROM THE EXECUTIVE DIRECTOR

RICHARD P. MITCHELL

When I first arrived in Cairo as ARCE director in June 1976, Dick Mitchell was just completing a year there as our Visiting American Professor. Although he was to depart a short time later, the many intensive hours of shared time he contributed to my initial orientation were of long-remembered significance. One enduring memory is reflected in the snapshot included below. It shows three friends, Louis Awad, Dick Mitchell and Tahsin Basheer in a moment of leisure at Dr. Awad's farm in the Fayyum.

Many others will write of Dick's highly important scholarly contributions, particularly his book on the Muslim Brotherhood. He also left us a generation of new scholars trained by him at the University of Michigan. Here we remember the devotion and support he offered the ARCE and the extremely sad fact that he died of cancer this past September while a Fellow at our Center in Cairo.



ARCE LIFE MEMBER DIES.

We also note here the passing November 25th of John Dimick, Life Member of the ARCE. His early support of the ARCE was critical, especially in the years before our major government support. In the last few years, Mr. Dimick vigorously pursued his interest in the Apis Embalming House at Mit Rahineh. For it he reconstituted a field project from his former work there and generously supported the new campaigns of investigation by our ARCE/Institute of Fine Arts, NYU team.

ANNUAL MEETING

We remind all yet once again of our annual meeting scheduled for Cleveland, April 27, 28 and 29.

Paul E. Walker

ANNOUNCEMENT...

A position at the rank of assistant or associate curator will soon be available in the Egyptian Department of the Royal Ontario Museum, Toronto. This is an academic tenure-stream appointment. The candidate must have the Ph.D. degree in Egyptology or Sudanology, be a specialist in the historic archaeology of the Nile Valley in the ancient periods with field experience, and be qualified to lead archaeological expeditions. Knowledge of Egyptian is also required. Responsibilities will also include gallery planning, [currently a high priority], care of collections, teaching, research, and general museum duties. A possibility exists for a teaching cross-appointment to the University of Toronto's Department of Near Eastern Studies. Applications must be received before 15 February 1984; the appointment will be effective as soon as possible or on 1 July 1984 at the latest. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Application should be sent, accompanied by applicant's c.v. and the names of three referees familiar with the candidate's work to:

N. B. Millet
Curator-in-Charge
Egyptian Department
The Royal Ontario Museum
100 Queen's Park West
Toronto, Ontario M5S 2C6
CANADA

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